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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/963,710

09/27/2001

Tatsuya Maeda

011297

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23850

7590

09/10/2004

ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP
1725 K STREET, NW
SUITE 1000
WASHINGTON, DC 20006

EXAMINER

BALI, VIKKRAM

ART UNIT

PAPER NUMBER

2623

DATE MAILED: 09/10/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/963,710

Applicant(s)

MAEDA ET AL.

Examiner

Vikkram Bali

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Tokura (US 5495424).

With respect to claim 1 and 2, Tokura discloses a solder inspection system that include a storing means for storing plurality of non defective parts, a judging for whether or not the part is defective or not by comparing the part to be inspected with the stored part, determining the analogous electric part, (see figure 29 and 30, numerical 101, 102, 103-106, 107-112) as claimed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 3, 7, 9, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokura (US 5495424).

With respect to claim 11 (exemplary claim), Tokura discloses a image pickup means (see camera figure 1), a extraction means for storing consulting data for non defective images comparing the images and having most analogous images, (see figure 3, and col. 4, lines 12-30) a judgment means for judging the quality (see figure 30, 104). However, he fails to explicitly disclose the second extraction and second judgment means, as claimed. But, the function of the second extraction and judgment means are disclose in col. 4, and lines 12-30, it states that the storage memory has references R to Rf thereby having different connection, i.e. the fittings and the solder connections, as the images, i.e. templates, in the memory and all these images does gets matched to see if a perfect match appears. Therefore, it would have been obvious to one ordinary

skilled in the art at the time of invention to simply use one or more means to do the same process of matching different templates and to check for the quality of the different solder structure on a substrate, as this is with in the state of the art to employ one or more processes.

Claims 3, 7 and 9 are rejected for the same reasons as set forth in the rejection of claim 11, because claims 3, 7 and 9 are claiming similar subject matter as claim 11.

6. Claims 4-6, 8, 10, 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokura (US 5495424) in view of Kitamura (US 5369430).

With respect to claim 4, Tokura discloses the invention substantially as disclose and as describe above in claim 3 (see rejection of exemplary claim 11). However, he fails to disclose the normalization correlation among the images to find the most analogous image, as claimed. Kitamura in the inspection method discloses a normalization correlation among the images to get the highest correlation value, (see col. 9, lines 23-32) as claimed.

It would have been obvious to one ordinary skilled in the art at the time of invention to combine the two reference as they are analogous because they are solving similar problem of inspection using the image comparison. The normalization correlation can be incorporated in to the matching circuit (figure 3, 17) of Tokura in order to come up with the highest correlation of the images to get the analogous image. As normalization correlation is one of the different types of correlation known in the field of art.

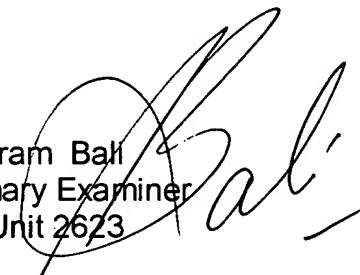
Claims 5-6, 8, 10, 12-14 are rejected for the same reasons as set forth in the rejection of claim 4 because claims 5-6, 8, 10, 12-14 are claiming similar subject matter as claim 4.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vikkram Bali whose telephone number is 703.305.4510. The examiner can normally be reached on 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703.308.6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vikkram Bali
Primary Examiner
Art Unit 2623



vb
September 10, 2004